



Preparation of 1,1-disubstituted -1,2,3,4-tetrahydronaphthalene by addition reaction of toluene derivatives with 1,3-butadiene or its derivatives and cyclization. Sato, Toshio; Takeda, Kyoichi. (Sumikin Kako K. K., Japan). Jpn. Kokai Tokkyo Koho (1997), 8 pp. CODEN: JKXXAF JP 09249584 A2 19970922 Heisei. Patent written in Japanese. Application: JP 96-62744 19960319. CAN 127:278071 AN 1997:632822 CAPLUS (Copyright 2001 ACS)

Patent Family Information

<u>Patent No.</u>	<u>Kind</u>	<u>Date</u>	<u>Application No.</u>	<u>Date</u>
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Abstract

The title compds. [I and II; R1, R2 = H, alkyl, alkoxy, alkoxyalkyl, (un)substituted aryl, aryloxy, aryloxyalkyl; one of R1 and R2 may form a ring which is linked to the carbon atom adjacent to the carbon atom linked to CHR1R2; Z = substituent or arom. fused ring stable under the reaction conditions; n = 0, 1-4; when n ≥ 2, each Z may be same or different to each other; R3, R4 = H, alkyl, alkoxy, alkoxyalkyl, (un)substituted aryl, aryloxy, aryloxyalkyl; when at least one of R1 and R2 = H, at least one of R3 and R4 ≠ H] are prepd. by addn. reaction of arom. compds. having a benzylic hydrogen (III; R1, R2, = same as above; m = 1-5; n = 0, 1-4; m+n ≤ 5; when m, n ≥ 2, each CHR1R2 or Z may be same or different to each other and at least one of the carbon atoms adjacent to the carbon atom linked to at least one CHR1R2 is not substituted) with butadiene CH2:CR4CR3:CH2 in the presence of an anionic basic addn. catalyst and cyclization of the resulting 1:1 adducts (IV and V; R1 - R4, Z, n = same as above) under heating in the presence of an acid catalyst. These compds. I and II are useful as intermediates for cosmetics, drugs, and agrochems. Thus, Na metal (catalyst) 1.07, K metal (catalyst) 3.73, biphenyl (catalyst aid) 4.4 g, and 200 mL THF were placed in a flask and heated to 60° under stirring, followed by adding 184 g toluene and then dropwise a soln. of 82 g 2-methyl-1,3-butadiene (isoprene) in 200 mL THF over 3 h, and the resulting mixt. was stirred at 60° for 1 h, cooled to 25° and treated with 100 mL H2O to decomp. the catalysts to give, after workup, 166.5 g adducts contg. two adducts as the main components. The latter adducts were autoclaved in the presence of 8.7 g silica alumina catalyst (N-633L, Nikki Chem., Japan) at 170° for 2 h to give 29.8% 1,1-dimethyl-1,2,3,4-tetrahydronaphthalene and 8.4% 1,2-dimethyl-1,2,3,4-tetrahydronaphthalene.